

Fulton Mall Pedestrian Count Project

Downtown Association of Fresno / Institute of Public Anthropology
by Henry D. Delcore, Ph.D. with James Mullooly, Ph.D. and Anne Visser

Section 1: Executive Summary

The Count

- The number of pedestrians who passed the Clock Tower at the intersection of Fulton and Mariposa Malls between 10am and 6pm each day on Oct. 5, 6 and 9 were 4516, 5228 and 4671, respectively.
- Weekday counts were strong compared to the weekend (Oct. 9), sustained by shoppers, work commuters and people with personal business in the Fulton Mall area.
- Seventy five public guesses at pedestrian numbers during the count period were, in general, dramatically less than the number counted. The median daily guess was about eight times lower than the actual count.

The Survey (N=157)

General

- About one third of the respondents had homes in the three zip codes that include the downtown core and the neighborhoods just to its south and east.
- About one third of those surveyed were walking on Fulton Mall for the first time. Two thirds had visited the Mall five or fewer times in the last month. Almost one fifth reported that they visited the Mall daily.
- Over one third of respondents cited “shopping/doing errands” as their primary purpose on the Mall the day they were surveyed.
- The Mall during the week is a place for shopping, work commute and personal business, but on Saturday, it becomes more homogenous, with shopping as the main activity and other categories of use less prevalent.
- Whites and Asians were present on the Mall in fewer numbers and African Americans and Latinos in greater numbers than their presence in the Fresno County population.

Significant Differences

- Individuals from zip codes with higher percentages of the population living in poverty are less likely to be first time visitors in the survey, i.e. more likely to indicate that they visit the Fulton Mall more frequently.
- Individuals whose home zip codes have a median family income less than \$24000 have the highest predicted probabilities across the most frequent visit categories as compared to other median income values.
- Non-Latinos are more likely to utilize the Fulton Mall for work/school/commute purposes.
- Individuals from higher income areas are less likely to visit the Fulton Mall for recreational purposes, for personal business, or to shop, and more likely to visit the Mall for work.
- Individuals from poorer areas are more likely to shop and use the Fulton Mall for personal purposes.

Section 2: Background

In fall, 2010, the Downtown Association of Fresno (DTA) funded the Institute of Public Anthropology (IPA) at California State University, Fresno, to conduct a pedestrian count and survey on Fulton Mall. The project was supervised by Dr. Henry D. Delcore (Professor of Anthropology, California State University, Fresno) with counting and surveying done by Fresno State anthropology students. Dr. James Mullooly (Professor of Anthropology, California State University, Fresno) and Anne Visser (Public and Urban Policy, The New School) assisted with the analysis of the findings. Dr. Delcore is responsible for the accuracy of the data and the analysis.

The purpose of the project was to set a baseline of data about pedestrian use on Fulton Mall to assist the public and policy makers in understanding current conditions there.

Section 3: Methodology

We counted and surveyed for eight hours (10am-6pm) on October 5 (Tuesday), 6 (Wednesday) and 9 (Saturday). We used the screenline count method, which involves counting all pedestrians, bicyclists and others who pass a specific point. (The screenline count method and associated forms and procedures were adapted from those recommended by the [National Bicycle and Pedestrian Documentation Project](#).) The screenline extended roughly east to west, diagonally across Clock Tower Square at the intersections of Fulton and Mariposa Malls (see Appendix A). The screenline location was chosen in consultation between Dr. Delcore and DTA Executive Director, Jan Minami, to capture data about people using the Mall for a variety of purposes, including shopping, public business (e.g. at the Courthouse and EOC Buildings), lunch breaks, and so on.

A counter was stationed on each of the two legs of the screenline, one focused on those passing to the east of the Clock Tower and one focused on those passing to the west. We counted all pedestrians, bicyclists and others who crossed the screenline. The bicyclist count represents the number of bicycle riders, not the number of bikes. The “other” category includes inline skaters, skateboarders, scooters, etc. Anyone walking a bike, or pushing a wheelchair, stroller, etc. was counted as a pedestrian. Children in strollers and people sitting in wheelchairs were also counted as pedestrians. We counted everyone who passed the screenline, including repeat passersby, a decision based on a goal of pedestrian counts: to measure pedestrian load. (The counters estimated that about 5% of the pedestrians counted were repeat passersby.) The only people we did not count were the food cart vendors manning the cart that straddled part of the east end of the line and police officers on bicycles.

The counters used hand clickers to count pedestrians, and a count form to mark bicyclists and others as they passed (see Appendix B). After each fifteen minute period, the counters entered the number of pedestrians from the clicker on the form, reset the clicker, and counted for another fifteen minutes.

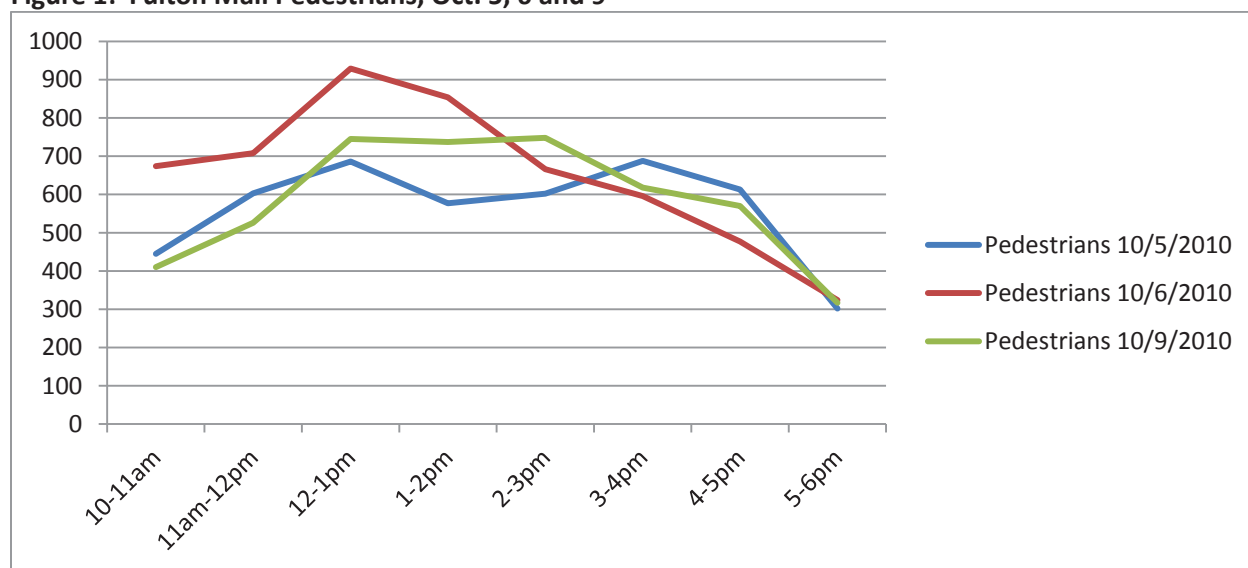
One surveyor worked in conjunction with the counters to identify and survey every tenth pedestrian (i.e. bicyclists and others were not included) (see Appendices C and D). When one of the counters reached the tenth pedestrian, they identified that person to the surveyor, who then approached them to conduct the survey. When the tenth person was a police officer or someone talking on their cellphone, the very next person was approached. Minors were excluded from the survey. Also, the surveyors estimated that about 30% of those approached declined to be surveyed. In cases where a minor was approached or the subject declined, the surveyor returned to the counter and

waited for the next tenth pedestrian. If the subject consented, the surveyor administered the survey and then returned to the other counter (i.e. the counter on the other side of the Clock Tower) and waited for their tenth pedestrian. The process of approaching subjects, the passage of pedestrians while surveys were being conducted, and the decline rate resulted in surveys collected from 157 subjects, far less than 10% of pedestrians counted.

Section 4: The Count

The number of pedestrians who crossed the screenline on Oct. 5, 6 and 9 were 4516, 5228 and 4671, respectively. The total numbers of passersby for the three count days were 4673, 5511 and 5071. Figure 1 (below) graphically represents the pedestrian numbers for the three days. See Tables 1-3 (below) for detailed count breakdowns.

Figure 1: Fulton Mall Pedestrians, Oct. 5, 6 and 9



Tuesday, October 5

Tuesday, October 5, was a cool, rainy day. According to www.weather.com, Fresno saw a low of 57 (in the morning) and a high of 67 (in the afternoon). From direct observation, we know that there was a light but steady rain at the count location all morning, with steady clearing after noon. After 2pm, a bright sun broke through scattered clouds. It was perfectly clear, with temperatures in the high 60s, by 4pm.

Two major shopping destinations on the Mall, the Fresno Discount Swap Mall and the Mammoth Mall, are closed on Tuesdays.

On October 5, Hacienda Jewelers (1048 Fulton Mall) was passing out bright orange balloons and families with small children could be seen toting balloons on the Mall throughout the day. (See Appendix G for pictures taken during the count.)

Table 1: Pedestrian Count for Tuesday, Oct. 5, 2010

	10-11am	11am-12pm	12-1pm	1-2pm	2-3pm	3-4pm	4-5pm	5-6pm	Total
Bicyclists	9	25	17	21	19	20	15	17	143
Pedestrians	445	603	686	577	602	688	613	302	4516
Other	1	1	1	2	1	1	2	5	14
Total	455	629	704	600	622	709	630	324	4673

Wednesday, October 6

According to www.weather.com, Fresno saw a low of 56 (morning) and high of 69 (afternoon) on October 6. The morning at the count location was overcast and cool, with clearing and warming around noon. The clouds returned after 1pm and during the afternoon the temperature dropped back toward the daily low.

On Oct. 6, The “Market on the Mall” farmer’s market was open for business just southwest of the Clock Tower beginning at 10am.

Table 2: Pedestrian Count for Wednesday, Oct. 6, 2010

Time	10-11am	11am-12pm	12-1pm	1-2pm	2-3pm	3-4pm	4-5pm	5-6pm	Total
Bicyclists	33	41	29	40	23	55	19	22	262
Pedestrians	674	708	929	854	666	596	477	324	5228
Other	0	3	1	7	4	3	2	1	21
Total	707	752	959	901	693	654	498	347	5511

Saturday, October 9

According to www.weather.com, Fresno saw a low of 56 (morning) and high of 81 (afternoon) on October 9. There was partial sun at the count location in the morning and clear skies in the afternoon.

The count on October 9 must be seen in the light of the several events happening around town that day. In the morning, DTA sponsored a volunteer clean-up day. The volunteers were active at the count location but only elevated the pedestrian count slightly since they mostly worked on the edges of Clock Tower Square and did not cross the screenline often. The DTA golf cart, used by DTA personnel to coordinate the volunteers, accounts for the relatively high “other” count in the morning. DTA also sponsored a Bike Ride Through History event in the morning, with groups of bicyclists riding through downtown to stop at important landmarks and hear lectures by local experts. The Clock Tower was one stop for the riders, who arrived in four groups between 10 and 11am. They account for the most of the 123 bicyclists counted in that period. In the afternoon, a wedding was held at the Security Bank Building Ballroom, though the participants did not cross the screenline in great numbers. On the other hand, October 9 was the first weekend day of the Big Fresno Fair, which may have drawn some people who would have otherwise visited the Mall.

Table 3: Pedestrian Count for Saturday, Oct. 9, 2010

Time	10-11am	11am-12pm	12-1pm	1-2pm	2-3pm	3-4pm	4-5pm	5-6pm	Totals
Bicyclists	123	30	25	17	27	29	29	29	309
Pedestrians	410	526	745	737	748	618	570	317	4671
Other	35	16	24	3	2	8	2	1	91
Total	568	572	794	757	777	655	601	347	5071

Analysis

Weekday vs. Weekend

One could have predicted that the highest count numbers would be recorded on Saturday, Oct. 9, since the weekend is a well-known time for shopping on the Mall. However, the highest pedestrian numbers were found on Wednesday, Oct. 6. Saturday, Oct. 9 had slightly more pedestrians than Tuesday, Oct. 4. However, Tuesday was a cool day with rain in the morning, and in spite of the closure of two major discount malls that day, Tuesday lagged Saturday by only 155 pedestrians. Had the weather been clearer, as it was on Wednesday, then Tuesday may very well have exceeded Saturday as well. Why were weekday counts relatively high compared to Saturday's count?

Wednesday's pedestrian count was surely boosted by the farmer's market, which drew people all morning and into early afternoon. However, a broader explanation lies in the "purpose of visit" question on the survey (see below, "Purpose of Trip," especially Table 5). Shoppers are strongly present on the Mall during the week (27% of pedestrians on Tuesday, Oct. 5, and 33% on Wednesday, Oct. 6, were shoppers). These shoppers, in combination with people walking to and from work and conducting personal business (likely at the various public buildings) account for the high numbers during the week. On Saturday, the percentage of shoppers among the respondents increased to 52%, but work commute and personal business numbers dropped. This means that the Mall during the week is a place for shopping, work commute and personal business, but on Saturday, it become more homogenous, with shopping as the main activity and other categories of use less prevalent.

Fulton Mall's Perception Problem

Since this was the first systematic pedestrian count in Fresno, it is hard to interpret the meaning of the count numbers. Comparative data from other pedestrian-oriented areas of town (e.g. the intersection of Olive and Wishon Avenues in the Tower District, River Park, and perhaps Fig Garden Village) would help put the Fulton Mall count in better perspective. However, one thing is clear: there are *far more* pedestrians using the Fulton Mall than public perception would indicate.

During the weeks after the count, DTA sponsored a "Guess the Pedestrians" contest in which the public was invited to guess the number of pedestrians who passed the Clock Tower during the count periods, with the closest guessers for each day awarded gift certificates to downtown businesses. Seventy five people submitted guesses for the three count days. The results are listed below.

Average: 1041

Median: 625

Low daily guess (submitted for Oct. 6): 55

High daily guess (submitted for Oct. 5): 7000

Obviously, the guessers vastly underestimated the number of pedestrians on the Mall, by an order of eight for the median guess and nearly one hundred for the low guess. The person who offered 7000 for Oct. 5 also guessed a relatively high 6500 for Oct. 6. These were the *only* guesses that over-estimated the number of pedestrians. Interestingly, however, this guesser estimated pedestrians on Saturday, Oct. 9, at only 600, implying that even this optimistic weekday guesser was very pessimistic about pedestrian activity on the Mall on weekends.

Section 5: The Survey

Descriptive Statistics

Home Zip Code

Almost two-thirds of those surveyed (100 of 157) cited a home zip code in the City of Fresno. Of the City of Fresno residents, half (49 of 100) came from the three zip codes that include the downtown core and the neighborhoods just to its south and east (93702, 93706 and 93721). In other words, about one third of those surveyed on the Mall (49 of 157) resided in or adjacent to the downtown core.

Table 4: “What is your home zip code?”

Home Zip Code	Responses
City of Fresno	100
Fresno County	24
Other Valley Counties	9
California – Outside the Valley	5
Out of State	4
Decline to State	10
Unknown/Unintelligible	5

N=157

See Appendix E for more details on home zip codes.

Purpose of Trip

Over one-third of respondents cited “shopping/doing errands” as their primary purpose on the Mall the day they were surveyed. All other purposes drew essentially the same number of responses except “school.”

The “other” category was extremely varied, including lunch break, missionary work, meeting a friend, jury duty, attending an AA meeting, taking the oath of citizenship and, in one case, buying drugs.

In the future, this question should be revised to eliminate overlap between “exercising” and “recreation,” and to include a category for “eating” and/or “lunch break.” “Personal business,” while vague and difficult to interpret, should be retained because it gives respondents who do not wish to share details about their purpose a chance to respond.

Table 5: “What best describes the purpose of this trip?”

Purpose of Trip	Total	Oct. 5	Oct. 6	Oct. 9
Shopping/doing errands	58	16	17	25
Work Commute	22	8	12	2
Recreation	23	6	8	9
Personal business	19	11	5	3
Other	17	8	5	4
Exercising	17	9	3	5
School	1	0	1	0
	N=157	N=58	N=51	48

N=157

Primary response only; 15 respondents gave a second or third response.

Frequency of Visits

About one third of those surveyed were walking on Fulton Mall for the first time. Two thirds had visited the Mall five or fewer times in the last month. Almost one fifth reported that they visited the Mall daily.

Table 6: “In the past month, about how often have you walked here?”

Frequency	Responses
First time	51
0-5 times	56
6-10 times	10
11-20 times	10
Daily	30

N=157

Public Transportation

About one-third of respondents reported that some part of their current trip to the Mall would involve public transportation.

Table 7: “Will any part of this trip be taken on public transit?”

Public Transit?	Responses
Yes	47
No	110

N=157

Ethnicity

The most strongly represented ethnic group among the respondents was “Hispanic/Latino,” an identity claimed by 62% of those surveyed. This exceeds the 54.1% Hispanic/Latino population of Fresno County as projected for 2010 by the California Department of Finance.¹ All other categories were equally present except “Asian,” who comprised only about 3% of the response group. Whites and

¹ State of California, Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 2000–2050*. Sacramento, CA, July 2007.

Asians were present on the Mall in fewer numbers and African Americans in greater numbers than their presence in the Fresno County population as projected by the California Department of Finance. However, given the demographic profiles of the neighborhoods in and around downtown, and the finding that one-third of the respondents resided in or close to downtown, the disproportionate presence of Hispanic/Latino and African American people on the Mall is not surprising.

Table 8: “What ethnic group do you identify with?”

Ethnic Group	Responses	% of Respondents	CA DoF Projection for Fresno County, 2010
Hispanic/Latino	98	62%	54.1%
Anglo/Caucasian	19	12%	29.1%
Other	18	11%	N/A
African American	17	11%	5.7%
Asian	5	3%	7.9%

N=157

Analysis

The analysis below is based on the results of three sets of logistic regression models and one multinomial logistic regression model, estimated to consider those characteristics which influenced key areas of interest to the study. See Appendix F for a detailed description of the methodology and results of the statistical analysis.

Characteristics of First Time Visitors

- Individuals who start their trip from a location other than work or home are 3.67 times more likely to indicate that this is their first time visiting the Fulton Mall than individuals who start and end their trip at home.
- In addition, the results suggest that individuals indicating that their trip started from their place of work are 0.48 times less likely than individuals starting their trip from home to report that this is their first time visiting the Fulton Mall. Such results suggest that individuals who work in the vicinity may frequent the Fulton Mall more often than individuals who begin trips from home or another location.
- We see that there is a negative association between first time visitors and the percent of individuals living in poverty in the home zip code area. These results suggest that individuals from zip codes with higher percentages of the population living in poverty are less likely to be first time visitors in the survey, i.e. more likely to indicate that they visit the Fulton Mall more frequently.

See Appendix F, “Frequency of Visits,” for details.

Factors Which Influence Frequency of Visits

- There is no statistically significant difference between Latinos and non-Latinos in terms of being more likely to frequently visit the Fulton Mall. However, the results do indicate that whether or not the individual’s trip starts or ends at work increases the likelihood that an individual visits the Fulton Mall more frequently, with individuals who start their trip at work 1.10 times more

likely and individuals who end their trip at work 2.16 times more likely to frequent the Fulton Mall at higher intervals than individuals who start or end their trip at home.

- The results suggest a negative association between median family income, median home value, and the percent of individuals living in poverty in the home zip code and increased frequency of visits to the Fulton Mall. In other words, individuals from areas with higher median family incomes and home values and lower percentages of individuals living in poverty are less likely to frequent the Fulton Mall.
- Individuals whose home zip codes have a median family income less than \$24000 have the highest predicted probabilities across the most frequent categories (6-10, 11-20, and Daily) as compared to other median income values. We see similar trends among those individuals whose home zip codes have higher percentages of individuals living in poverty and similar distributional trend as it relates to the median home values

See Appendix F, “Frequency of Visits,” for details.

Use of Public Transportation

- Latino respondents were 1.30 times more likely to use public transportation than non-Latino individuals.
- The results also suggest a negative association between median family income and the use of public transportation during their visit, suggesting that individuals from zip code areas with higher median family income levels are less likely to use public transportation during their visit than individuals who live in areas with lower median family incomes.
- Likewise, the results suggest a positive association between use of public transportation during the visit among individuals who live in zip code areas with higher percentages of individuals living in poverty.

See Appendix F, “Use of Public Transportation,” for details.

Purpose of Visit

Taken together, the results suggest a few key conclusions about purpose of visit:

- Non-Latinos are more likely to utilize the Fulton Mall for work/school/commute purposes.
- Individuals from higher income areas are less likely to visit the Fulton Mall for recreational purposes, for personal business, or to shop, and more likely to visit the Mall for work; this population is more likely to be non-Latino.
- Individuals from poorer areas are more likely to shop and use the Fulton Mall for personal purposes.

Work/School

- The results indicate that Latinos are less likely to visit the Fulton Mall for work/school purposes or during a commute from school or work. As to be expected, individuals who start their trip from work are more likely to be visiting the Fulton Mall for work purposes.
- In addition the results suggest a negative association between poverty and visiting the Fulton Mall for the purposes of work and school. While previous regression results suggested a positive correlation between frequency of visits and poverty, this suggests that individuals who

live in zip codes with higher percentages of individuals living in poverty may be more likely to visit the Fulton Mall more frequently, but are not likely to do so for work or school.

- Finally we see that there is a positive association between median family income and visiting the Fulton Mall for the purposes of work or school suggesting that individuals from zip code areas with higher median family incomes are more likely to visit the Fulton Mall for this purpose.

Recreation

- There is a negative association between median family income and visiting the Fulton Mall for recreational purposes, suggesting that individuals from areas with higher median family incomes are less likely to visit/use the Fulton Mall for recreation.
- There is a negative association between percent of individuals in poverty in the home zip code area and recreational use, suggesting that individuals living in areas with higher levels of poverty may be more likely to visit the Fulton Mall, but are less likely to visit for recreational purposes

Personal/Other

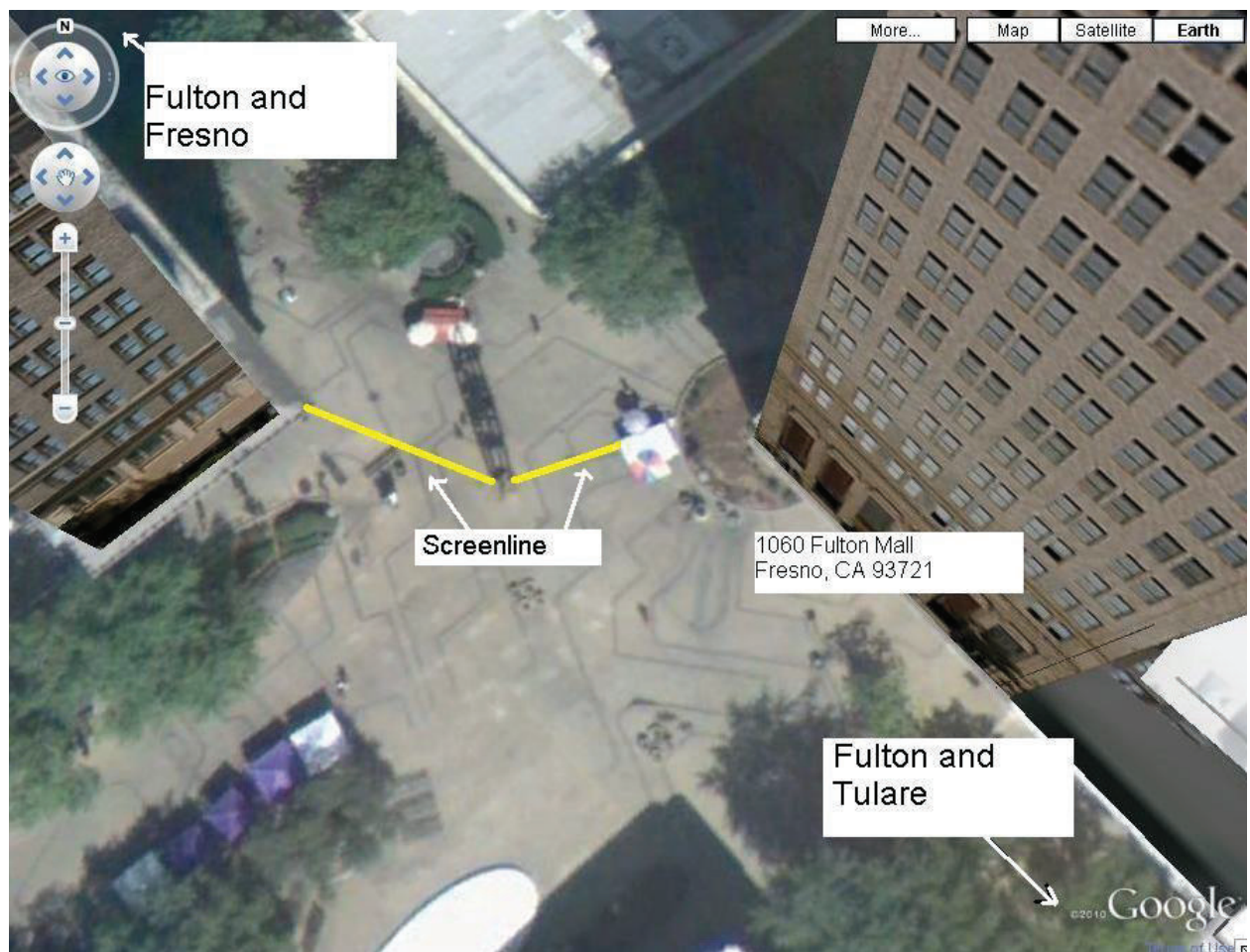
- The results suggest that there is a positive association between poverty and personal reasons for visiting the Fulton Mall, suggesting that individuals who live in zip code areas with high percentages of poverty are more likely to visit the Fulton Mall for this purpose than individuals who live in areas with lower percentages.
- In addition, we see a negative association between median home value and visiting the Fulton mall for personal purposes, suggesting that individuals who live in areas with higher home values are less likely utilize the Fulton Mall for personal use.

Shopping

- The results suggest that if an individual started their trip from a location other than home or work, they are more likely to visit the Fulton Mall for shopping purposes.
- The finding include a positive and statistically significant result suggesting that individuals who live in zip code areas with higher percentages of poverty are more likely to shop at the Fulton Mall than individuals who do not.

See Appendix F, "Purpose of Visit," for details.

Appendix A: Screenline Location



Appendix B: Count Form

STANDARD SCREENLINE COUNT FORM

Name: _____ Location: _____

Date: _____ Start Time: _____ End Time: _____

Weather: _____

Please fill in your name, count location, date, time period, and weather conditions (fair, rainy, very cold).

Count all bicyclists and pedestrians crossing your screen line under the appropriate categories.

- Count for two hours in 15 minute increments.
- Count bicyclists who ride on the sidewalk.
- Count the number of people on the bicycle, not the number of bicycles.
- Pedestrians include people in wheelchairs or others using assistive devices, children in strollers, etc.
- People using equipment such as skateboards or rollerblades should be included in the "Other" category.

	Bicycles	Others	Pedestrians
0-:15			
15-:30			
30-:45			
45-1:00			
1:00-1:15			
1:15-1:30			
1:30-1:45			
1:45-2:00			
Total			

Appendix C: Pedestrian Survey (English)

Location: _____ Date: _____ Time: _____

Surveyor: _____ Weather: _____
(sunny, cloudy, rainy, windy, hot, and/or cold)

“Excuse me, I’m a student at Fresno State doing a research project on why people are walking on Fulton Mall. This survey will take less than three minutes and your answers will not be shared with others. Would you like to answer my questions?”

If yes, ask: “Are you over 18?”

- If the subject is under 18, thank them and return to the same counter for a new tenth person.
- If the subject is over 18, then proceed:

1. What is your home zip code?

Home zip code: _____

2. What best describes the purpose of this trip?

- Exercising (a)
- Work commute (b)
- School (c)
- Recreation (d)
- Shopping/doing errands (e)
- Personal business (medical, visiting friends, etc.) (f)
- Other (g) _____

3. In the past month, about how often have you walked here?

- First time (a) • 0 – 5 times (b) • 6 – 10 times (c) • 11 – 20 times (d) • Daily (e)

4. What is the total length of time of this trip to Fulton Mall, from start to finish, as far as you know?

Time: _____ minutes

Where did this trip begin – work, home, etc.?

Begin: _____

What are the major cross streets?

Cross streets: _____

Where will this trip end – work, home, etc.?

End: _____

What are the major cross streets?

Cross streets: _____

5. Will any part of this trip be taken on public transit?

- Yes (a) • No (b)

6. What ethnic group do you identify with? (please check all that apply) (optional)

- Hispanic/Latino (a) • African American (b) • Anglo/Caucasian (c) • Asian (d) • Other (e) _____

Appendix D: Pedestrian Survey (Spanish)

Lugar: _____ Fecha: _____ Hora: _____

Entrevistador/a: _____ Tiempo: _____
(Hace sol, frío, calor, viento o está nublado)

"Disculpe, soy un/a estudiante de la Universidad de Fresno y estamos haciendo un estudio de la calle peatonal de Fulton y sobre el por qué la gente camina aquí y donde caminan específicamente. La entrevista duraría menos de dos minutos y la información sería confidencial."

En el caso de "Sí", pregunta: **"Tiene más de 18 años?"**

- Si tiene menos, dile "gracias" y regresa para la próxima décima persona.
- Si tiene más, procede así:

1. Cual es su código postal?

Código Postal: _____

2. Cual explica mejor el propósito de este paseo?

- Ejercicio (a)
- Conmutar a trabajo (b)
- Escuela (c)
- Recreación (d)
- Quehaceres/Compras (e)
- Citas personales (amigos, citas médicas) (f)
- Otro (g) _____

3. En el mes pasado, cuántas veces ha caminado aquí?

- Primera vez (a)
- 0 – 5 veces (b)
- 6 – 10 veces (c)
- 11 – 20 veces (d)
- Diario (e)

4. Cuál es el tiempo total de este paseo, de su comienzo a su terminación?

Tiempo: _____ minutos

Dónde comenzó el viaje? (trabajo, escuela, casa)?

Comienzo: _____

Cual son las calles principales donde usted vino?

Intersección: _____

Dónde terminará el viaje (trabajo, escuela, etc)?

Destinación: _____

Cual son las calles principales donde usted vino?

Intersección: _____

5. Alguna parte de viaje usaría tránsito público?

- Sí (a)
- No (b)

6. De qué grupo étnico se identifica usted? (todos que aplican) (opcional)

- Hispano/Latino (a)
- Americano-Africano (b)
- Anglo/Caucásico (c)
- Asiático (d)
- Otro (e) _____

Appendix E: Home Zip Codes

Home Zip Code	Responses
City of Fresno	100
Fresno County	24
Other Valley Counties	9
California – Outside the Valley	5
Out of State	4
Decline to State	10
Unknown/Unintelligible	5

N=157

City of Fresno: Detail (N=100)

93701=5
93702=23
93703=2
93704=2
93705=6
93706=17
93708=1
93710=4
93711=1
93720=4
93721=9
93722=8
93723=1
93724=1
93725=2
93726=5
93727=4
93728=3
93755=1
93777=1

Fresno County: Detail (N=24)

93612=2
93618=3
93619=2
93621=1
93622=1
93630=4
93648=1
93654=3
93656=1
93657=1
93662=4
93745=1

Other Valley Counties: Detail (N=9)

Stanislaus County = 1

Merced County = 1

Madera County = 1

Tulare County = 4

Kings County = 2

Appendix F: Statistical Analysis

by Anne Visser (Public and Urban Policy, The New School)

The analysis is based on the results of three sets of logistic regression models and one multinomial logistic regression model, estimated to consider those characteristics which influenced key areas of interest to the study. These included a logistic regression model to understand those factors which influenced whether or not the individual had ever visited the Fulton Mall prior to the interview, a ordinal logistic regression model to identify those factors which influenced the frequency of the individual's visit to the Fulton Mall area, a logistic regression model to identify those factors which influenced whether or not an individual used public transit during their trip, and a multinomial regression analysis to identify those factors which influenced the purpose of the individual's trip to the Fulton Mall.

The models controlled for characteristics of individuals believed to potentially influence whether an individual visits the Fulton Mall. These control variables include an ethnic/racial variable labeled "Latino", identifying individuals in the dataset who self-identify as Latino or Hispanic. Given the low cell count of other racial/ethnic groups and to ensure the proper interpretation of the regression results, all other respondents in the survey were collapsed into another ethnic/racial category identified as "non-Latino", and are used as the reference group in the analysis. In addition to race, we control for the start and end points of the trip including whether or not the individual starts/ends at work and whether or not the individual stops/ends at a location that is not home or work. Individuals who started/ended at home were used as the reference group in the analysis. Given the Fulton Mall's proximity to the metropolitan downtown area, it is reasonable to think that the Fulton Mall may be used by individuals who work in the area.

In addition, we include three macroeconomic variables to approximate for an individual's economic level. The survey instrument used did not ask for specific information on the individual's economic status or situation. However the survey did collect for the home zip code of the individual. Given this we use data from the 2009 American Community Survey undertaken by the United States Census Bureau to control for the median family income, the percent of individuals living in poverty, as well as the median home value of the zip code area in which the individual lives. While this data is aggregate and does not provide as accurate of an understanding of the economic status of an individual, it is a commonly used method to understand the economic environments in which individuals operate daily. (The inclusion of all three variables in the analysis work simultaneously to try to counter balance areas in which you may have blocks of higher priced homes or individuals with higher median family incomes within zip codes which may have high rates of poverty.)

All of the regressions are inclusive of 155 observations of the original 157. Two observations were removed from the analysis given that they were missing information on key variables in the analysis. A full list of the variables included in the analysis and their definitions are reported in Table 9 below.

Frequency of Visit

A logistic regression analysis was used to understand those factors which influenced whether or not individuals were first time visitors to the Fulton Mall. Logistic regression is used to understand the likelihood that a positive outcome is observed based upon a set of predictor variables. The coefficients are reported in terms of odds ratios with statistically significant odds ratios higher than 1.00 indicating a higher likelihood of experiencing a positive outcome as compared to the reference group, a odds ratio of

0.99 or below indicating a lower likelihood of experiencing a positive outcome as compared to the reference group, and an odds ratio of 1.00 indicating no difference.

Table 9: Definition of Dependent and Control Variables Included in Regression Models

Dependent Variables	
First time	Binary variable used in the Probit Model indicating that it was the first time that an individual had visited the Fulton Mall
Fulton Mall visits	Five category ordinal variables used in the Ordinal Logistic Regression indicating the times the individual had visited the Fulton Mall. The categories include: first time visit, 0-5 times in the last month, 6-20 times in the last month, 11-20 times, and daily.
Public transportation	Binary variable used in the Probit Model indicating that the individual used public transit at least once during their trip to Fulton Mall
Purpose of visit	A five part dependent variable used in the multinomial logistic regression analysis indicating the purpose of the individual's visit to Fulton Mall: exercising, work/school commute, personal/shopping, or other purpose.
Control Variables	
Latino	Binary variable indicating that the individual interviewed identified as Latino/Hispanic, with individuals who did not identify as Latino or Hispanic used as the reference group in all regressions
Trip started from work	Binary variable indicating that the individual's trip to Fulton Mall began from work with individuals whose trips beginning at home used as the reference group in all regressions
Trip started from location other than work or home	Binary variable indicating that the individual's trip to Fulton Mall began from a location other than work or home with individuals whose trips beginning at home used as the reference group in all regressions
Trip ended at work	Binary variable indicating that the individual's trip to Fulton Mall would end at their work location with individuals whose trips beginning at home used as the reference group in all regressions
Trip ended at location other than work or home	Binary variable indicating that the individual's trip to Fulton Mall would end a location other than work or home with individuals whose trips beginning at home used as the reference group in all regressions
Median family income of individual's home zip code	A continuous variable indicating the median family income of the zip code area in which the individual lives, all data is derived from the 2009 American Community Survey- United States Census Bureau
Percent of population living in poverty in individual's home zip code	A continuous variable indicating the percentage of individuals living in poverty of the zip code area in which the individual lives, all data is derived from the 2009 American Community Survey- United States Census
Median home value of the individual's home zip code	A continuous variable indicating the median house value of the zip code area in which the individual lives, all data is derived from the 2009 American Community Survey- United States Census Bureau

Table 10 provides the results of the ordinal logistic regression model. The model as a whole is statistically significant with a chi square of 0.0000. As shown in the table the results suggest that individuals who start their trip from a location other than work or home are 3.67 times more likely to indicate that this is their first time visiting the Fulton Mall than individuals who start and end their trip at home. In addition, the results suggest that individuals indicating that their trip started from their place of work are 0.48 times less likely than individuals starting their trip from home to report that this is their

first time visiting the Fulton Mall. Such results suggest that individuals who do work in the vicinity may frequent the Fulton Mall more often than individuals who begin trips from home or another location. In addition we see that there is a negative association between first time visitors and the percent of individuals living in poverty in the home zip code area. These results suggest that individuals from zip code areas with higher percentages of the population living in poverty are less likely to be first time visitors in the survey- i.e. more likely to indicate that they have visited the Fulton Mall and may do so more frequently.

Table 10: Logistic Regression Results for the Likelihood that the Individual is a First Time Visitor to the Fulton Mall

First time	Odd Ratio	Z-Score and P>z
Latino	1.60	1.08
Trip started from work	0.48	-0.65*
Trip started from other location	3.67	2.47**
Trip ended at work	0.41	-1.03
Trip ended other Location	0.63	-0.87
Median Family Income	0.99	-0.30
Percent Poverty	0.98	-0.97*
Median home Value	1.00	0.93
Chi Square: 0.0000		LR chi2: 10.01

* indicates that the coefficient result is significant at or below the 10% level

** indicates that the coefficient result is significant at or below the 5% level

***indicates that the coefficient result is significant at or below the 1% level

Having identified characteristics which influence that an individual is more likely to be a first time visitor to the Fulton Mall, we then ran ordinal logistic regression to identify those factors which influence whether or not an individual is likely to frequent the Fulton Mall, and, if so, at what interval. Ordinal logistic regression is appropriate when the dependent variable is ordinal and the intent of the analysis is to understand the likelihood that a given outcome is observed based upon a variety of characteristics. For this regression model the dependent variable has five categories: first time visitor, 1-5 times monthly, 6-10 times monthly, 11-20 times monthly, and daily. Like the logistic regression model estimated above, the coefficients are reported in terms of odds ratios and can be understood as an order of magnitude. As in the previous regression, statistically significant odds ratios higher than 1.00 indicate a higher likelihood of experiencing a positive outcome as compared to the reference group, a odds ratio of 0.99 or below indicate a lower likelihood of experiencing a positive outcome as compared to the reference group, and an odds ratio of 1.00 indicate no difference. Table 11 reports the results of the regression analysis.

Table 11: Ordinal Logistic Regression Analysis of the Likelihood that an Individual Frequently Visits the Fulton Mall

Fulton Mall Visits	Odds Ratio	Z-Score and P>z
Latino	0.70	-0.98
Trip started from work	1.10	0.17**
Trip started from other location	0.03	-2.06*
Trip ended at work	2.16	1.09**
Trip ended other Location	.68	1.19
Median Family Income	0.99	-0.81***
Percent Poverty	0.96	0.82**
Median home Value	0.95	0.06*
Chi Square: 0.0000		LR chi2: 12. 25

* indicates that the coefficient result is significant at or below the 10% level

** indicates that the coefficient result is significant at or below the 5% level

***indicates that the coefficient result is significant at or below the 1% level

As reported in the table, the results indicate that there is no statistically significant difference between Latinos and non-Latinos in terms of being more likely to frequently visit the Fulton Mall. However, the results do indicate that whether or not the individual's trip starts or ends at work actually increases the likelihood that an individual visits the Fulton Mall more frequently, with individuals who start their trip at work 1.10 times more likely and individuals who end their trip at work 2.16 times more likely to frequent the Fulton Mall at higher intervals than individuals who start or end their trip at home. In addition, the results suggest a negative association between median family income, median home value, and the percent of individuals living in poverty in the home zip code and increased frequency of visits to the Fulton Mall. In other words, individuals from areas with higher median family incomes and home values and lower percentages of individuals living in poverty are less likely to frequent the Fulton Mall.

As a post-estimation exercise, logistic regression allows us to estimate the predicted probability that an individual is a first time visitor to the Fulton Mall Area based upon variables identified as statistically significant in the logistic regression model. The predicted probabilities are reported in terms of percentages and can be interpreted that X% of a certain group is likely to be a first time visitor to the Fulton Mall, X% a 0-5 time monthly visitor, etc. The predicted probabilities are reported in Table 12 below.

Table 12: Predicted Percentage Probabilities of an Individual's Frequency of Visiting the Fulton Mall

	First	0-5 monthly	6-10 monthly	11-20 monthly	Daily
Started at Work	31.31	37.66	6.92	6.75	17.36
Ended at work	19.70	34.77	8.40	9.05	28.08
Started at Other location	51.97	32.10	4.12	3.68	8.13
Median Income <=\$24,000	34.57	37.44	6.39	6.12	15.48
Median Income 24,001- 35000	37.91	37.05	6.03	5.19	13.82
Median Income >35000	48.95	33.44	4.49	4.05	9.09
Less than %5 poverty	36.96	37.27	7.57	7.78	10.42
5-10% poverty	29.73	37.61	7.04	6.05	18.63
11-20% poverty	31.15	35.96	6.30	5.08	21.49
20-30% poverty	26.70	37.75	6.13	6.01	23.41
Poverty >30%	25.18	37.60	7.74	7.50	21.98
Median Home Value <\$150,000	21.03	35.47	8.01	9.04	26.45
Home Value \$150001-\$200000	43.85	35.36	5.15	4.71	10.93
Home Value \$200000-\$300000	41.39	36.11	5.48	5.08	11.94
Home Value over \$300000	47.21	39.49	3.52	3.09	6.69

As shown in the table, the predicted probabilities follow the regression results with individuals starting and ending their trip at work showing higher percentage probabilities of frequently visiting the Fulton Mall. In addition we see that individuals whose home zip codes have a median family income less than \$24000 have the highest predicted probabilities across the most frequent categories (6-10, 11-20, and Daily) as compared to other median income values. We see similar trends among those individuals whose home zip codes have higher percentages of individuals living in poverty and similar distributional trend as it relates to the median home values.

Use of Public Transportation

A third logistic regression model was used to understand those factors which influenced whether or not individuals used public transit on their trip. Again, logistic regression is used to understand the likelihood that a positive outcome is observed based upon a set of predictor variables. The coefficients are reported in terms of odds ratios with statistically significant odds ratios higher than 1.00 indicating a higher likelihood of experiencing a positive outcome as compared to the reference group, a odds ratio of 0.99 or below indicating a lower likelihood of experiencing a positive outcome as compared to the reference group, and an odds ratio of 1.00 indicating no difference. Table 13 displays these results.

Table 13: Logistic Regression Estimating the Likelihood that an Individual Used Public Transportation During Their Trip to the Fulton Mall.

Public Transport	Odd Ratio	Z-Score and P>z
Latino	1.30	0.64*
Trip started from work	0.80	-0.35
Trip started from other location	0.54	-1.11
Trip ended at work	0.31	-1.11
Trip ended other Location	1.71	1.07
Median Family Income	0.69	-0.44**
Percent Poverty	1.04	2.82***
Median home Value	1.00	0.75
Chi Square: 0.0000		LR chi2: 10.01

* indicates that the coefficient result is significant at or below the 10% level

** indicates that the coefficient result is significant at or below the 5% level

*** indicates that the coefficient result is significant at or below the 1% level

As shown in the table, Latino respondents were 1.30 times more likely to use public transportation than non-Latino individuals. In addition, the results suggest a negative association between median family income and the use of public transportation during their visit, suggesting that individuals from zip code areas with higher median family income levels are less likely to use public transportation during their visit than individuals who live in areas with lower median family incomes. Likewise the results suggest a positive association between use of public transportation during the visit among individuals who live in zip code areas with higher percentages of individuals living in poverty.

As a post-estimation exercise, logistic regression allows us to estimate the predicted probability that certain groups will utilize public transportation during a visit to Fulton Mall, based upon variables identified as statistically significant in the logistic regression model. The predicted Probabilities are reported in Tables 14 and 15 below.

Table 14: Estimated Predicted Probability that an Individual Will Use Public Transit Based on Latino Ancestry

Public Transportation	Yes	No
Latino	37.85	62.15
Non-Latino	21.74	78.26

As shown in Table 14, it is estimated that 37.85% of Latinos who visit the Fulton Mall will use public transportation as compared to 21.74% of all non-Latinos. Table 15 reports the predicted probability that an individual will use public transportation if the presence of the additional variable listed in the right hand column is valued at one. In other words, the predicted likelihood that any individual, any Latino individual, and any non-Latino Individual who started their trip at work, lives in a home zip code area with less than 5% poverty, etc. is likely to use public transportation while visiting the Fulton Mall.

Table 15: Estimated Predicted Probability that an Individual Will Use Public Transit for all Individuals and by Latino Ancestry

Public Transportation	All	Latino	Non-Latino
Started at Work	29.99	19.01	23.51
Started at Other location	23.09	40.84	34.52
Median Income <=\$24,000	38.79	35.70	29.77
Median Income 24,001- 35000	35.17	38.96	32.77
Median Income >35000	27.52	27.20	12.85
Less than %5 poverty	5.11	5.93	5.85
5-10% poverty	31.10	34.85	29.00
11-20% poverty	29.12	34.00	28.23
20-30% poverty	38.43	41.04	34.71
Poverty >30%	49.04	52.21	45.51
Median Home Value <\$150,000	30.13	33.11	27.43
Home Value \$150001-\$200000	34.41	35.39	33.12
Home Value \$200000-\$300000	31.69	31.69	25.46
Home Value over \$300000	5.95	-	5.95

As shown in the table, the distributions do show some interesting predicted probabilities across economic variables, with an increased percentage likelihood predicted in areas with higher levels of poverty and lower median home values and median family incomes. In addition across the economic variables we see that Latinos are more likely than non-Latinos to use public transportation when visiting the Fulton Mall.

Purpose of Visit

Finally, a multinomial regression model was used to understand what factors influenced why individuals visit the Fulton Mall. Multinomial logistic regression is used to understand the factors which influence why one individual outcome is experienced over another—in this case, the purpose of visiting the Fulton Mall. Multinomial regression is appropriate when the dependent variable has more than one discrete category, but cannot be ordered in an ordinal way. For this regression model, the dependent variable “Purpose of Visit” includes five categories derived from the questionnaire: exercising, work/school, recreation, personal/other and shopping. Unlike the logistic models estimated above, the coefficients are interpreted by the direction of the sign and the statistical significance and can only determine the direction of the relationship between the two variables. For example, a regression coefficient for poverty rate under the category shopping of 1.43 that is statistically significant at the 1% level, would indicate that individuals living in home zip code areas with higher levels of poverty are more likely to shop at the Fulton Mall. Table 16 reports the regression findings.

Taken together, the multinomial logistic regression results suggest a few key conclusions:

- Non-Latinos are more likely to utilize the Fulton Mall for work/school/commute purposes.
- Individuals from higher income areas are less likely to visit the Fulton Mall for recreational purposes, for personal business, or to shop, and more likely to visit the Mall for work; this population is more likely to be non-Latino.
- Individuals from poorer areas are more likely to shop and use the Fulton Mall for personal purposes.

Exercising

The results of the analysis suggest that there is no statistically significant difference between the likelihood that various groups in the survey use the Fulton Mall for exercising. Thus, no meaningful results can be derived for this category.

Work/School

The results indicate that Latinos are less likely to visit the Fulton Mall for work/school purposes or during a commute from school or work. As to be expected, individuals who start their trip from work are more likely to be visiting the Fulton Mall for work purposes. In addition the results suggest a negative association between poverty and visiting the Fulton Mall for the purposes of work and school. While previous regression results suggested a positive correlation between frequency of visits and poverty, this suggests that individuals who live in zip codes with higher percentages of individuals living in poverty may be more likely to visit the Fulton Mall more frequently, but are not likely to do so for work or school. Finally we see that there is a positive association between median family income and visiting the Fulton Mall for the purposes of work or school suggesting that individuals from zip code areas with higher median family incomes are more likely to visit the Fulton Mall for this purpose.

Recreation

The regression results under recreation indicate that there is no statistically significant difference between Latinos and non-Latinos in our analysis. However the results do suggest that if the individual started their trip from a location other than work or home, they are more likely to be visiting the Fulton Mall for recreational purposes. In addition we see that there is a negative association between median family income and visiting the Fulton Mall for recreational purposes, suggesting that individuals from areas with higher median family incomes are less likely to visit/use the Fulton Mall for recreation. Finally there is a negative association between percent of individuals in poverty in the home zip code area and recreational use, suggesting that individuals living in areas with higher levels of poverty may as stated above be more likely to visit the Fulton Mall, but are less likely to visit for recreational purposes.

Personal/Other

The regression models suggest that only two variables are significant. First, the results suggest that there is a positive association between poverty and personal reasons for visiting the Fulton Mall, suggesting that individuals who live in zip code areas with high percentages of poverty are more likely to visit the Fulton Mall for this purpose, than individuals who live in areas with lower percentages. In addition we see a negative association between median home value and visiting the Fulton Mall for personal purposes, suggesting that individuals who live in areas with higher home values are less likely utilize the Fulton Mall for personal use.

Shopping

The regression results suggest that if an individual started their trip from a location other than home or work, they are more likely to visit the Fulton Mall for shopping purposes. Of some surprise is the result on poverty which suggests a positive and statistically significant regression result suggesting that individuals who live in zip code areas with higher percentages of poverty are more likely to shop at the Fulton Mall than individuals who do not.

Table 16: Purpose of Visit			Purpose of Visit		
	Coeff	Z-Score and P <z		Coeff	Z-Score and P <z
Exercising			Other		
Latino	0.94	1.10	Latino	-0.49	-0.74
Trip started from work	1.22	1.20	Trip started from work	-30.32	-0.02
Trip started from other location	1.72	1.80	Trip started from other location	1.74	2.19**
Trip ended at work	1.23	0.84	Trip ended at work	30.95	0.02
Trip ended other Location	1.96	2.41	Trip ended other Location	0.56	0.67
Median Family Income	0.00	0.42	Median Family Income	0.002	0.70
Percent Poverty	0.24	0.85	Percent Poverty	0.03	1.36**
Median Home Income	-0.89	-0.07	Median Home Income	-2.23	-0.23
Pub trans	-0.70	-1.12	Pub trans	0.256	0.39
Constant	-2.92	-1.30	Constant	-1.45	-0.88
Work/School					
Latino	-1.95	-2.29**			
Trip started from work	3.68	3.68***	Lrchi:	100.08	
Trip started from other location	1.46	1.56	Prob >chi2	0.000	
Trip ended at work	-1.71	-1.12			
Trip ended other Location	0.45	0.47			
Median Family Income	6.23	0.16			
Percent Poverty	-0.57	-2.32**			
Median Home Income	-2.99	-0.34*			
Pub trans	0.23	0.33			
Constant	0.29	-0.17			
Recreation					
Latino	-0.09	-0.14			
Trip started from work	-14.78	-0.01			
Trip started from other location	0.48	0.56*			
Trip ended at work	14.71	0.01			
Trip ended other Location	0.092	1.19			
Median Family Income	0.017	-0.79*			
Percent Poverty	-0.037	-2.06**			
Median Home Income	3.160	0.35			
Pub trans	-0.387	-0.70			
Constant	0.983	0.71			
Personal/Other					
Latino	-0.77	-1.09			
Trip started from work	-14.05	-0.01			
Trip started from other location	0.10	0.10			
Trip ended at work	16.01	0.01			

Trip ended other Location	0.71	0.76
Median Family Income	0.001	1.04
Percent Poverty	0.53	2.26**
Median Home Income	-7.825	-0.88*
Pub trans	-0.201	0.29
Constant	0.131	0.93

Appendix G: Pictures



Tuesday, October 5, ca. 11:30am (from the Clock Tower looking northwest toward Fresno Street)



Tuesday, October 5, ca. 3:15pm (from the Clock Tower looking southeast toward Tulare Street)



Tuesday, October 5, ca. 3:15pm (from the Clock Tower looking northwest toward Fresno Street)



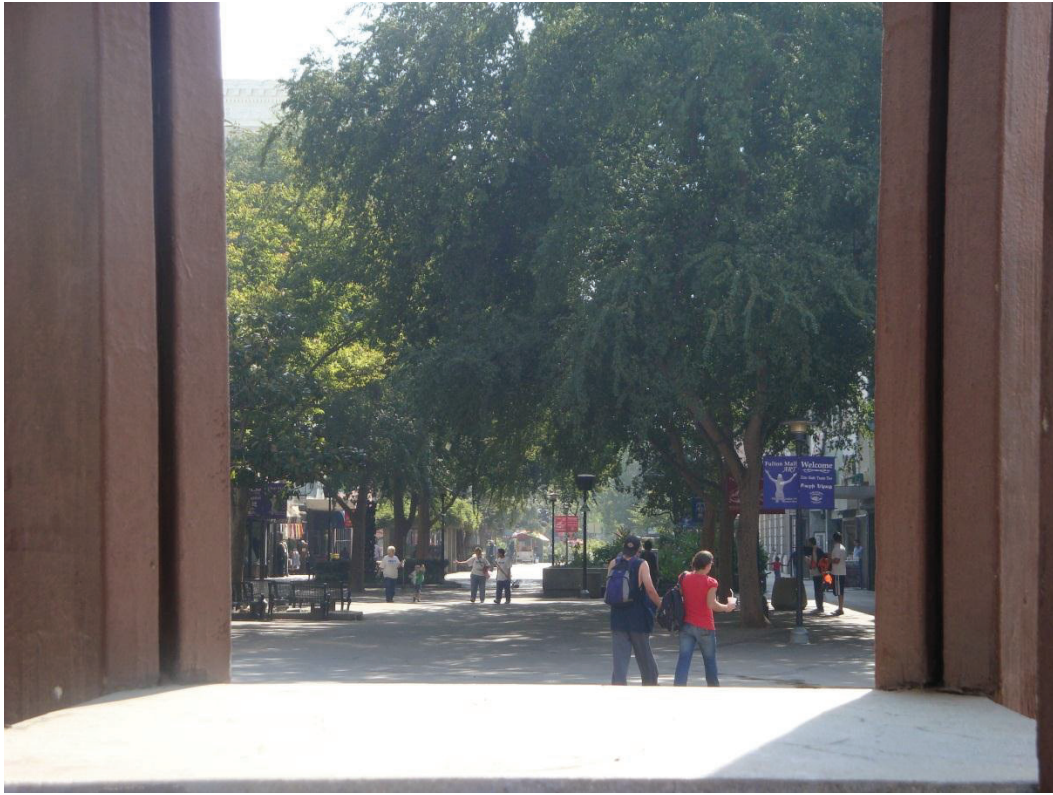
Wednesday, Oct. 6, ca. 12:45pm (from the vicinity of the Clock Tower looking southwest)



Wednesday, Oct. 6, ca. 12:45pm (Mariposa Mall, just northeast of the Clock Tower)



Saturday, Oct. 9, ca. 10:30am (the Bike Ride Through History tour stops at the Clock Tower)



Saturday, Oct. 9, ca. 12:30pm (view through the Clock Tower looking southeast toward Tulare Street)